Patent claims

1.   A rotation rate sensor having a vibrational gyroscope which is part of at least one control loop which excites the vibrational gyroscope by supplying an excitation signal at its natural frequency, the vibrational gyroscope providing an output signal from which a noisy rotation rate signal is derived, characterized in that the noisy rotation rate signal is supplied to inputs on a low pass filter (11) with controllable bandwidth and on a bandpass filter (12), and in that the output of the bandpass filter (12) is connected to a control input on the low pass filter (11) via a threshold value circuit (13).

2.   The rotation rate sensor as claimed in claim 1, characterized in that the threshold value circuit (13) and the control input of the low pass filter (11) have a band selector (15) arranged between them which follows a transition in the output signal from the threshold value circuit (13) by producing a gradual transition in the signal which is supplied to the control input of the low pass filter (11).

3.   The rotation rate sensor as claimed in either of claims 1 and 2, characterized in that the bandpass filter (12) lets through changes in the rotation rate signal which are faster than the changes let through by the low pass filter (11) with a minimally set bandwidth and are at most as fast as the fastest changes caused by the rotation of the vibrational gyroscope (1).

4.   The rotation rate sensor as claimed in one of the preceding claims, characterized in that an output signal from the threshold value circuit (13) adopts a first level when the absolute value of the output signal from the bandpass filter (12) is below a prescribed threshold, and also adopts a second level.

5. The rotation rate sensor as claimed in one of the preceding claims, characterized in that the band limits of the bandpass filter (12) and the threshold of the threshold value circuit (13) are programmable.

6. The rotation rate sensor as claimed in claim 5, characterized in that the limits of the adjustment range of the low pass filter (11) and the transition time from the lowest to the highest limit and the transition time from the highest to the lowest bandwidth are also programmable.